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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------|------------------|
| 10/661,447 | 09/11/2003 | Edward Thomas | S1364-703819 | 7812 |
| 37462 | 7590 | 11/27/2006 | EXAMINER | |
| LOWRIE, LANDO & ANASTASI RIVERFRONT OFFICE ONE MAIN STREET, ELEVENTH FLOOR CAMBRIDGE, MA 02142 | | | FREAY, CHARLES GRANT | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3746 | |

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------|---------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/661,447 | THOMAS ET AL. |
| | Examiner | Art Unit |
| | Charles G. Freay | 3746 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 September 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to because the blocks 101, 102 and 103 should contain labels such as : metering pump, flow meter and controller so that the drawings can be readily understood. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities: in line 6 “provided” should be “provides”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 7 and 9-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague and indefinite because in claims 3, 11 and 16 the claims set forth that the controller “determines” the control signal based upon the set point signal and the fluid flow rate signal. Claims 1, 9 and 13 set forth that the controller is “responsive to” the same variables “to adjust” the control signal. It is unclear what the difference in the scope of these limitations are and what the applicant is trying to differentiate between the claims.

In claim 7 the applicant sets forth that the control signal “includes a pulse”. It is unclear what this means. The examiner believes that the applicant means that the control signal is delivered in a “pulsing manner”, i.e. that the control signal is digital. For purposes of examination the examiner has considered this limitations to be that the control signal is digital.

In line 7 of claims 9 and 14 there is no antecedent basis for “the set point”.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 9-12 and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Laskaris et al (USPN 5,727,933).

Laskaris et al discloses a fluid feed system /chemical processing facility/fluid dispenser including a positive displacement metering pump (gear pump 22 shown in Fig. 2), a positive displacement gear type flow meter (36), and a metering pump controller (34), the controller receives a set point signal (33) and an actual fluid flow rate signal (37) and responsive thereto determines a control signal (41) which directs a cycle rate of the pump (see col. 4 lines 20-24). There is a chemical feedstock (20) and a process consuming the fluid (the combination of the fluids in lines 24 and 18).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5, 7, 8, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laskaris et al (USPN 5,727,933) in view of Kurokawa (JP 404331955A).

Laskaris et al discloses a fluid feed system /chemical processing facility/fluid dispenser including a positive displacement metering pump (gear pump 22 shown in Fig. 2), a positive displacement gear type flow meter (36), and a metering pump controller (34), the controller receives a set point signal (33) and an actual fluid flow rate signal (37) and responsive thereto determines a control signal (41) which directs a cycle rate of the pump (see col. 4 lines 20-24). There is a chemical feedstock (20) and a process consuming the fluid (the combination of the fluids in lines 24 and 18). Laskaris et al do not disclose that the flow meter is an oval gear flow meter or that the control signal includes a pulse or is an analog signal. Kurokawa discloses a liquid feed unit having a positive displacement pump (43) and an oval gear flow meter (44) included within the same housing. At the time of the invention it would have been obvious to one of ordinary skill in the art to substitute an oval gear type flow meter such as Kurokawa's for the gear type flow meter of Laskaris et al as an equivalent type positive displacement flow meter which produces a more exact control of the feed unit.

The examiner also gives official notice that controllers which generate "pulsing outputs" (i.e. digital outputs) and analog outputs are well known and that it would have been obvious to one of ordinary skill in the art to use either one of these types of controllers. Using a digital system would allow for the use of readily available digital controllers such as computer controller. Or it would have been obvious to use an analog signal in order to provide a signal which is continuously provided in an accurate manner.

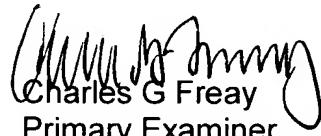
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dearing Sr. et al discloses a feedback control system for a metering pump.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Charles G Freay
Primary Examiner
Art Unit 3746

CGF
November 19, 2006